

1.0 - Introduction

We first want to offer our gratitude and appreciation to all those that participated in developing this manual. The talented team at North Carolina State University's Biological and Agricultural Engineering Department developed the first manual, printed in 2007. Dr. Bill Hunt, Jon Hathaway, and Ryan Smith wrote the first manual that educated and trained well over 75 district employees and associates in the proper design and implementation of urban stormwater practices. Well over 800 practices were installed in more than 70 counties across the state with practices ranging from rain gardens to stream restoration. Our sincere thanks to this team for their work

This updated manual will serve to further the efforts made at the inception of the program. The contribution, dedication, and hard work from the team listed below will serve to further improve water quality benefits to important watersheds across the state from increasingly urbanizing areas. The continued success of this program can be attributed to the following individuals and entities:

The Soil and Water Conservation Commission – responsible for carrying out the Community Conservation Program, establishing priorities, dedicating funding, rules, and implementing the program:

*Vicki Porter – Cabarrus District - Chairwoman
Craig Frazier – Randolph District – Vice Chairman
Donald Heath – Craven District - member
Tommy Houser – Lincoln District - member
Charles Hughes – Lenoir District - member
John Langdon – Johnston District - member
Bill Yarborough – Haywood District – member*

The Division of Soil and Water Conservation Management Team – responsible for carrying out the day to day programmatic actions established by the Commission:

*Pat Harris – Director
David Williams – Deputy Director
Julie Henshaw – Chief, Non-Point Source Section
Natalie Woolard – Chief, Technical Services Section*

The Design Manual Review Team:

CCAP Design Manual

Division Staff:

Shelly Baird – former CCAP Coordinator

Daphne Cartner – DSWC Engineer

Julie Henshaw – Chief, NPS Section

Scott Melvin – DSWC Engineering Technician

Jeff Young – DSWC Engineer

Carl Dunn – DSWC Engineer

Tim Kennedy – DSWC Engineer

Cindy Safrit – DSWC Engineer

Soil and Water Conservation District Staff:

Mike Doxey – Currituck SWCD

Mike Dupree – Durham SWCD

Anthony Hester – Beaufort SWCD

Gary Higgins – Buncombe SWCD

Supervisors/Board Members:

Bill Hart – Supervisor, New Hanover SWCD

Partners/Cooperators:

Melanie Mason – Town of Hope Mills

Robert Patterson – NC DWQ Stormwater

Mitch Woodward – Cooperative Extension

Our most sincere thanks to those above for reviewing, commenting on, and improving this manual.

INTRODUCTION TO THE COMMUNITY CONSERVATION ASSISTANCE PROGRAM

In the past 4 decades, the population of North Carolina has nearly doubled to reach 9.5 million people in year 2010. As the population grows, this leads to a conversion of land to residential and commercial development and a decline in the number of farms statewide. North Carolina remains a leader in agriculture and the existing programs must continue, but providing natural resource conservation to the entire community becomes increasingly essential.

As the landscape of North Carolina continues to change, the role of soil and water conservation districts (districts) is also expanding to address nonpoint source pollution issues on non-agricultural lands. Increased population has led to stormwater runoff carrying nutrients, sediment, bacteria, and resulting water quality degradation. Districts are a crucial component in efforts to treat this runoff, and over 75% of districts are involved in some form of community conservation. Efforts include: sediment and erosion control, stormwater management, watershed education, and land conservation.

The North Carolina Division of Soil and Water Conservation (Division) addresses nonpoint source pollution from non-agricultural lands. The Soil and Water Conservation Commission (Commission) received authorizing legislation to establish the Community Conservation Assistance Program (CCAP) through Session Law 2006-78. CCAP is designed to improve water quality through the voluntary installation of various best management practices (BMPs) on urban, suburban and rural lands, not directly involved in agricultural production. Local districts provide educational, technical and financial assistance, and the Division and Commission administer the program. The CCAP program operates under the same guidance and accountability as the successful NC Agriculture Cost Share Program.

CCAP BMPs include: backyard rain gardens, cisterns, riparian buffers, stormwater wetlands, stream restoration, and more. Eligible landowners, including homeowners, businesses, local government, schools, parks, and others, may be reimbursed up to 75 percent of the cost of retrofitting these BMPs. CCAP focuses its efforts on retrofitting stormwater BMPs on existing land uses; it is not used to assist new development meet state and federal stormwater mandates. Districts have the technical expertise and a successful history of promoting voluntary conservation practices. The financial incentives encourage landowners throughout the community to incorporate water quality BMPs within their landscape where BMPs are not required by regulation.

Beginning in only 17 counties, CCAP funds were allocated to 70 soil and water conservation districts in PY 2012. Program funding is primarily derived from grants. Over \$1.5 million has been received from the following sources: the NC Clean Water Management Trust Fund

(CWMTF), EPA's Section 319 Clean Water Act grant, the NC Coastal Federation, and the NC Attorney General's Environmental Enhancement Grant (EEG) Program. Since its inception, there has also been an annual State appropriation for CCAP, in the amount of \$200,000 recurring funds, to include one full time position. District demand for CCAP still far exceeds the current funding levels.

As of November 2012, over 800 BMPs have been installed, expending over \$2.0 million. The most popular BMPs include: rain gardens and bioretention areas, abandoned well closures, cisterns, pet waste receptacles, riparian buffers, stormwater wetlands, and stream stabilization and restoration.

1.2 THE CCAP BEST MANAGEMENT PRACTICE DESIGN MANUAL

The purpose of the CCAP Best Management Practice (BMP) Design Manual is to be a resource for soil and water conservation district employees in siting, selecting, designing, installing, and maintaining stormwater BMPs. This manual is intended to provide guidance for the implementation of effective water quality improvement practices while efficiently distributing funds throughout participating districts.

This detailed guidance serves as supplemental information to the existing BMP standards, specifications, and program requirements defined in the CCAP Program Manual. In addition, the annual CCAP Average Cost List provides further information on cost estimates and potential cost share reimbursement. These documents, along with any additional design tools, should be referenced in conjunction with the CCAP Best Management Practice Design Manual to fulfill the intentions of the program. These documents are found online at the [Division of Soil and Water Conservation](#) website.